

WHAT IS CLAIMED IS:

1. A method of detecting abnormal tissue in a patient comprising:
 - (a) administering to the patient a vasodilatory agent capable of increasing the uptake of a radiopharmaceutical which selectively accumulates in abnormal tissue;
 - (b) administering to the patient a radiopharmaceutical agent which selectively accumulates in the abnormal tissue; and
 - (c) imaging a tissue of the patient with a radiation detector to detect any abnormal tissue.
2. The method of claim 1 wherein the abnormal tissue is abnormal breast tissue.
3. The method of claim 1 wherein the vasodilatory agent comprises dipyridamole.
4. The method of claim 3, further comprising administering the dipyridamole in a dose of between about 30 mg and about 120 mg.
5. The method of claim 3 further comprising administering the dipyridamole intravenously in a dose of between about 30 cc and about 60 cc.
6. The method of claim 3 further comprising administering 0.852 milligram per kilogram (mg/kg) of body weight of dipyridamole intravenously.
7. The method of claim 1 wherein the radiopharmaceutical is a sestamibi.
8. The method of claim 7 wherein the sestamibi is Technetium-99m hexakis 2-methoxyisobutylisonitrile.
9. The method of claim 7 further comprising administering sestamibi in a dose of between about 20 mCi and about 35 mCi.
10. The method of claim 9 further comprising administering the sestamibi intravenously in a dose of between about 25 mCi and about 30 mCi.
11. The method of claim 1 wherein the abnormal tissue comprises cancerous tissue.

12. The method of claim 1 wherein the abnormal tissue comprises inflammatory tissue.
13. The method of claim 1 wherein the abnormal tissue comprises atypia tissue.
14. The method of claim 1 wherein the radiation detector is selected from the group consisting of single photon emission computed tomography (SPECT) detectors, positron emission tomography (PET) detectors, semiconductor detectors, and other suitable planar imaging devices.
15. The method of claim 1 further comprising administering the vasodilatory agent and the radiopharmaceutical intravenously.
16. The method of claim 1 further comprising administering the radiopharmaceutical during the peak vasodilatory effect of the vasodilatory agent.
17. A method for early detection of abnormal tissue comprising measuring vascularity activity and mitochondrial activity.
18. The method of claim 17 wherein the abnormal tissue is abnormal breast tissue.
19. The method of claim 17 further further comprising increasing the vascularity activity by a vasodilatory effect of dipyridamole.
20. The method of claim 19 further comprising administering the dipyridamole in a dose of between about 30 mg and about 120 mg.
21. The method of claim 19 further comprising administering the dipyridamole intravenously in a dose of between about 30 cc and about 60 cc.
22. The method of claim 19 further comprising administering about 0.852 milligram per kilogram (mg/kg) of body weight of dipyridamole intravenously.
23. The method of claim 17 further comprising increasing mitochondrial activity through the increased delivery of a sestamibi.
24. The method of claim 23 wherein the sestamibi is Technetium-99m hexakis 2-methoxyisobutylisonitrile.

25. The method of claim 24 further comprising administering the sestamibi in a dose of between about 20 mCi and about 35 mCi.
26. The method of claim 24 further comprising administering the sestamibi intravenously in a dose of between about 25 mCi and about 30 mCi.
27. The method of claim 17 wherein the abnormal tissue comprises cancerous tissue.
28. The method of claim 17 wherein the abnormal tissue comprises inflammatory tissue.
29. The method of claim 17 wherein the abnormal tissue comprises atypia tissue.
30. The method of claim 17 further comprising imaging a tissue of the patient with a radiation detector to detect any abnormal tissue.
31. The method of claim 30 wherein the radiation detector is selected from the group consisting of single photon emission computed tomography (SPECT) detectors, positron emission tomography (PET) detectors, semiconductor detectors, and other suitable planar imaging devices.
32. The method of claim 17 further comprising administering the vasodilatory agent and the radiopharmaceutical intravenously.
33. The method of claim 17 further comprising administering the radiopharmaceutical during a peak vasodilatory effect of the vasodilatory agent.
34. A method for detecting changes in tissue comprising measuring increased vascularity activity and increased mitochondrial activity.
35. The method of claim 34 wherein the tissue comprises breast tissue.
36. The method of claim 34 further comprising increasing the vascularity activity by a vasodilatory effect of a dipyridamole.
37. The method of claim 36 further comprising administering the dipyridamole in a dose of between about 30 mg and about 120 mg.

38. The method of claim 36 further comprising administering the dipyridamole intravenously in a dose of between about 30 cc and about 60 cc.
39. The method of claim 36 further comprising administering about 0.852 milligram per kilogram (mg/kg) of body weight of the dipyridamole intravenously.
40. The method of claim 34 further comprising increasing mitochondrial activity through the increased delivery of a sestamibi.
41. The method of claim 40 wherein the sestamibi is Technetium-99m hexakis 2-methoxyisobutylisonitrile.
42. The method of claim 41 further comprising administering the sestamibi in a dose of between about 20 mCi and about 35 mCi.
43. The method of claim 41 further comprising administering the sestamibi intravenously in a dose of between about 20 mCi and about 35 mCi.
44. The method of claim 34 wherein the tissue is an abnormal tissue comprising cancerous tissue.
45. The method of claim 34 wherein the tissue is an abnormal tissue comprising inflammatory tissue.
46. The method of claim 34 the tissue is an abnormal tissue comprising atypia tissue.
47. The method of claim 34 further further comprising imaging the tissue of the patient with a radiation detector to detect any abnormal tissue.
48. The method of claim 47 wherein the radiation detector is selected from the group consisting of single photon emission computed tomography (SPECT) detectors, positron emission tomography (PET) detectors, semiconductor detectors, and other suitable planar imaging devices.
49. The method of claim 34 further comprising administering a vasodilatory agent and a radiopharmaceutical intravenously.

50. The method of claim 34 further comprising administering a radiopharmaceutical during a peak vasodilatory effect of a vasodilatory agent.
51. A formulation for early detection of cancer comprising combining a dipyridamole and a sestamibi.
52. The formulation of claim 51 further comprising about 0.852 milligram per kilogram (mg/kg) of body weight of the dipyridamole and about 20-35 mCi of the sestamibi.
53. The formulation of claim 51 further comprising about 0.852 milligram per kilogram (mg/kg) of body weight of the dipyridamole and about 25-30 mCi of the sestamibi.
54. A method of detecting abnormal tissue in a patient comprising:
 - (a) administering to the patient a biologically effective dose of a dipyridamole agent;
 - (b) administering to the patient a biologically effective dose of a sestamibi; and
 - (c) imaging at a tissue of the patient with a radiation detector to detect abnormal tissue in the patient.
55. The method of claim 54 wherein the abnormal tissue comprises abnormal breast tissue.
56. The method of claim 54 wherein the biologically effective dose of the dipyridamole agent is a dose of between about 30 mg and about 120 mg.
57. The method of claim 54 wherein the biologically effective dose of the dipyridamole agent is a dose of between about 30 cc and about 60 cc.
58. The method of claim 54 wherein the biologically effective dose of the dipyridamole agent is a dose of about 0.852 milligram per kilogram (mg/kg) of body weight.
59. The method of claim 54 wherein the biologically effective dose of the sestamibi is a dose of between about 20 mCi and about 35 mCi.

60. The method of claim 59 further comprising administering the sestamibi intravenously in a dose of between about 25 mCi and about 30 mCi.
61. The method of claim 54 wherein the abnormal tissue comprises cancerous tissue.
62. The method of claim 54 wherein the abnormal tissue comprises inflammatory tissue.
63. The method of claim 54 wherein the abnormal tissue comprises atypia tissue.
64. The method of claim 54 wherein the radiation detector is selected from the group consisting of single photon emission computed tomography (SPECT) detectors, positron emission tomography (PET) detectors, semiconductor detectors, and other suitable planar imaging devices.
65. The method of claim 54 further comprising administering the dipyridamole agent and the sestamibi intravenously.
66. The method of claim 54 further comprising administering the sestamibi during a peak vasodilatory effect of the dipyridamole agent.